

CLAIMS

1. A light-emitting diode comprising:

a cup component;

a plurality of electrical conducting traces formed on a surface of said cup component using an MID means;

a light-emitting diode chip mounted on said cup component and electrically connected to at least a first and second electrical conducting trace of said plurality of electrical conducting traces; and

a first connection part connected to at least said first and second electrical conducting traces for providing electrical connections to external circuitry.
2. A light-emitting diode as described in claim 1, further comprising at least other electrical components located on the surface of the cup.
3. A light-emitting diode as described in claim 2, wherein said other electrical components are electrically connected to said first and second electrical conducting traces and includes a protective element that electrically protects said light-emitting diode chip.
4. A light-emitting diode as described in claim 2, wherein said other electrical components include an element that monitors light emission from said light-emitting diode chip or an element that monitors heat-generation from said light-emitting diode chip, wherein said monitoring

element is electrically connected to at least a third electrical conducting trace of said plurality of electrical conducting traces formed by said MID means on said surface of said cup component so that it is independent from said first and second electrical conducting traces.

5. A light-emitting diode as described in claim 4, further comprising a second connection part connected to at least said third electrical conducting trace for providing electrical connections to said external circuitry.
6. A light-emitting diode as described in claim 1, wherein said first connection part further comprises first and second leads connected electrically to said first and second electrical conducting traces, respectively.
7. A light-emitting diode as described in claim 6, wherein said cup component includes a lead-linking component that links to said first and second leads.
8. A light-emitting diode as described in claim 6, wherein each of said first and second leads includes an extension component that extends to the vicinity of said light-emitting diode chip.
9. A light-emitting diode as described in claim 1, wherein said cup component comprises a resin or ceramic material.
10. A light-emitting diode as described in claim 1, wherein said first connection part comprises at least a portion said first and second electrical conducting traces.

11. A light-emitting diode as described in claim 1, wherein said cup component further comprises a holding linking component for linking to an object on which said light-emitting diode is held.
12. A light-emitting diode as described in claim 1, further comprising a plurality of light-emitting diode chips mounted on said cup component, each having a first and second electrode, wherein said plurality of electrical conducting traces includes three or more electrical conducting traces for providing electrical connections to said first and second electrodes.
13. A light-emitting diode as described in claim 12, further comprising a number of leads corresponding to said three or more electrical conducting traces, each connected to an individual one of said three or more electrical conducting traces.
14. A method for the manufacture of a light-emitting diode comprising:
- a process of forming at least one pair of electrical conducting traces by an MID method on the surface of a cup component wherein the cup includes an insulating material having a cup structure,
- a process of mounting a light-emitting diode chip a bottom surface of the cup structure to produce a secondary assembly; and
- a process of assembling the secondary assembly together with other components to complete the light emitting diode.

15. A method for the manufacture of a light-emitting diode as described in claim 14, wherein the process of assembling the secondary assembly with other parts includes a process of assembling and electrically connecting the secondary assembly with a lead component.
16. A method for the manufacture of a light-emitting diode as described in claim 14, wherein the process of assembling the secondary assembly with other parts includes a process of resin mold formation so that said other parts are covered by resin from the outside of said secondary assembly.
17. A light-emitting diode as described in claim 1, wherein said cup component comprises an insulating material.